

HELIANTHEMUM DUMOSUM ON THE MAINLAND OF  
NEW ENGLAND.

M. L. FERNALD.

IN 1913 Mr. E. P. Bicknell described as *Crocanthemum dumosum*<sup>1</sup> a plant of Nantucket, Martha's Vineyard and Long Island which, as indicated by him, is abundantly distinct from *Helianthemum canadense*, with which it has been confused. The plant, which is certainly a good species, blooming earlier than *H. canadense* and much earlier than *H. majus*, is, however, not confined to the islands mentioned; but the collections of the Gray Herbarium and of the New England Botanical Club show it to occur also on Block Island, where Mr. Long and the writer found only this species of the genus; on Nashawina, where Mrs. Northrop collected it in 1903; and quite generally on the barrens of Cape Cod, specimens in the herbarium of the New England Botanical Club showing it to extend from Sandwich to Chatham and Eastham. Prof. J. F. Collins and the writer found it also on the mainland of Rhode Island in South Kingstown in 1914.

In publishing the species Bicknell places it in *Crocanthemum* rather than in *Helianthemum*, the inclusive genus to which these plants have long been referred. In doing so he presumably follows Britton in the second edition of the *Illustrated Flora* where the American plants are placed in *Crocanthemum* of Spach and are said to be "with showy yellow flowers, and with other much smaller apetalous cleistogamous ones," a genus with "Type species: *Crocanthemum carolinianum* (L.) Spach."<sup>2</sup>

It is somewhat singular, if *Crocanthemum* is a distinct genus on account of its small apetalous cleistogamous flowers, that Spach, in publishing *Crocanthemum* with the type species *C. carolinianum*, should have overlooked this fact and should have distinctly given as the leading character of *Crocanthemum*: "Flores omnes 5-petali"; while the American plants with apetalous cleistogamous flowers he placed in a separate genus, *Heteromeris*.<sup>3</sup> There is little question that the type of *Crocanthemum*, *C. carolinianum*, lacks the apetalous

<sup>1</sup> Bicknell, Bull. Torr. Bot. Club, xl. 613 (1913).

<sup>2</sup> Britton in Britton & Brown Ill. Fl. ed. 2. ii. 539 (1913).

<sup>3</sup> Spach, Ann. Sci. Nat. sér. 2. vi. 370 (1836).



cleistogamous flowers which Britton makes characteristic of the genus. At least, the herbarium specimens fail to show them; Spach, in publishing *Crocanthemum*, with *C. carolinianum* as the type, distinctly stated that the flowers were all petaliferous; and Barnhart, in his key to *Helianthemum* in the second edition of Small's *Flora of the Southeastern United States*, separates *H. carolinianum* from the other southeastern species by its having "Flowers all alike and petaliferous."<sup>1</sup> Incidentally, *H. carolinianum* is a plant with stems and calyces hirsute, while the species with apetalous cleistogamous flowers have the pubescence chiefly canescent-tomentulose or pannose. If it is justifiable to separate the plants with apetalous cleistogamous flowers as a genus, it would seem that they should not be forced into *Crocanthemum*, which is characterized by its lack of such flowers, but should be maintained in Spach's extreme sense as *Heteromeris*. The characters used by Spach in distinguishing the genera proposed by him as segregates from *Helianthemum* are chiefly of the "more or less" type and, until they are better checked than has been done by those American botanists who have recently taken up *Crocanthemum* in a sense not intended by the author of the genus, it is wise to leave the plants in *Helianthemum*, where their status is free from question.

It is noteworthy in this connection that even Dr. Britton, under *Crocanthemum* in the *Illustrated Flora*, inserts after *C. majus* a newly recorded species for the region, not as *Crocanthemum* but as *Helianthemum georgianum*, thus indicating that the change to *Crocanthemum* was made at the last moment and apparently without very careful study of the question.

Such characters as the length of the style and its straight rather than curved tendency, upon which stress has been laid by students who have attempted to segregate *Helianthemum* into genera, as, for instance, Grosser<sup>2</sup> in *Das Pflanzenreich*, where our plants are placed in *Halimium*, quickly fail and it is doubtful if these characters are of greater value than in many other genera, such, for instance, as *Carex*, in which we find long or short, straight or curved styles. For example, Grosser's Fig. 18, I, shows the flower of a *Helianthemum* (a genus with styles said to be usually curved) with the style quite as straight and as short as in his Fig. 9, G and H, illustrating *Halimium rosmarinifolium*, a characteristic North American plant which is certainly

<sup>1</sup> Barnhart in Small, *Fl. SE. U. S.* ed. 2, 796 (1913).

<sup>2</sup> W. Grosser in Engler, *Das Pflanzenr.* IV. pt. 193 (1903).



congeneric with *Helianthemum canadense* and *H. majus*. Other distinctions, in the embryo, etc. have been suggested, but it is extremely doubtful if these have been checked in all our species. At least, the writer, finding himself unable with his present knowledge of the group to maintain *Crocانthemum* for the plants of northeastern America, thinks it better to treat the plants as belonging to a subgenus under *Helianthemum*, a course which has commended itself to many scholarly students in the past. The low early-flowering species of the coastal region of southern New England and New York should then, as a *Helianthemum*, be called

**HELIANTHEMUM dumosum** (Bicknell), n. comb. *Crocانthemum dumosum* Bicknell, Bull. Torr. Bot. Club, xl. 613 (1913).

GRAY HERBARIUM.

GLANDULARITY ON *VERONICA ANAGALLIS-AQUATICA* L.—The seventh edition of Gray's Manual describes *Veronica Anagallis-aquatica* L. as smooth. However, specimens collected in Sheffield and Stockbridge, Massachusetts, have the stem and branches of the inflorescence thickly clothed with glandular pubescence. Three specimens in the Gray Herbarium from England, Bohemia, and France are smooth, while one from the Azores is glandular. In America the glandular form has been collected at Tinmouth, Vermont; Newark, New York; Lancaster, Pennsylvania; and Berkshire County, Massachusetts. The smooth one, on the other hand, has been found in Ipswich, Massachusetts, in New Jersey, Pennsylvania, Missouri, New Mexico, Arizona, Oregon, and Assiniboia. A specimen from Virginia has the inflorescence glandular and the stem smooth. Further collection and examination of material of this species is needed to determine the constancy, geographic bearing, or taxonomic significance of these differences. In any event it appears that the description in the Manual should read "smooth or glandular." — RALPH HOFFMANN, Kansas City, Missouri.

*Vol. 19, no. 218, including pages 21 to 40, was issued 14 February, 1917.*